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EXAMINER

BLOOM, NATHAN J

ART UNIT	PAPER NUMBER
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2624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/521,863	Applicant(s) DIEDERIKS ET AL.	
	Examiner NATHAN BLOOM	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-15 and 17-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-15 and 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' response to the last Office Action, filed on November 25th, 2009 has been entered and made of record.

Response to Arguments

1. Applicant's arguments with respect to the newly amended subject matter of the currently presented claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4-8, 10, 13-15, 18-19, and 21-22 rejected under 35 U.S.C. 103(a) as being unpatentable over McClure (US 7006129 B1) in view of Schofield (US 2002/0003571).

Instant claim 10: A viewing system, comprising:

display [*McClure: object 130 in Fig. 4, object 230 in Fig. 5. Li: Figures 5 and 6.*]; and
an imaging system connected to the display [*McClure: object 132 camera Fig. 4, 250 Fig. 5, 150 Fig. 2-3 and 6.*],

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wherein the display is arranged to display an image based on signals received from the imaging system, a spatial orientation of the display being adjustable, and wherein the imaging system further comprises [McClure: *Display shows image based on signals received from imaging system, see Fig. 3-4 and lines 41-62 of column 2.*]

(a) an orientation adjustor arranged to adjust a viewing orientation of the imaging system [McClure: *objects 130, 158, 156, 152, 154 of Fig. 4*],

(b) a sensor for detecting adjustments in the orientation of the display and [McClure: *objects 134 and 136 of Fig. 4*]

(c) a processor arranged to process the image [McClure: *object 132 of Fig. 4, the driver (of the display system) is the device the processes image for display (image reversal).*], the sensor being connected to the orientation adjustor [Objects 156 and 158 of figure 4 represent the control circuitry for the adjustor.] and the orientation adjustor being arranged to adjust the viewing orientation of the imaging system based on signals received from the sensor [Thus McClure has taught a method and device for controlling the adjustment of the camera by way of an adjustor means controlled by the movement of the display apparatus in Fig. 4 and lines 41-62 of column 2, lines 42+ of column 4 and lines 1-7 of column 6. However, McClure does not clearly state that the system processes all the information (adjustment and display) via a processor. However, as per the teachings of Schofield the display of data and information using (see below for Schofield reference) processed image signals (processed using a device with a processor), and the knowledge of one of ordinary skill in the art at the time of the invention, the implementation of hardware devices as digital signal processing systems or as analog control systems was well known to one of ordinary skill in the art. Examiner takes official notice that it

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was notoriously obvious to one of ordinary skill in the art at the time of the invention to implement a control and display system using digital components (includes a processor) to take advantage of the generally cheaper and more flexible digital implementation as opposed to its analog counterpart. Furthermore, it would have been obvious to one of ordinary skill in the art to implement the system described by McClure as a digital processing system (as taught by the knowledge of one of ordinary skill in the art at the time of the invention) containing a processor for an efficient, flexible, and cost effective implementation.],

the processor being further arranged to process additional information concerning status of a vehicle or its surroundings for display on the display, [McClure has taught the adjustor, sensor, display, and an image processor but does not disclose the processing of additional information regarding the vehicles status or surroundings. However, Schofield has disclosed a rear-view imaging system that aids the driver, similar to that taught by McClure without the sensor and orientation means. Furthermore, Schofield has taught in paragraphs 0009-0010 a system that displays additional overlaying information, and in paragraphs 0004, 0265, 0328 Schofield has taught the need for an adjustable camera so that the driver can have the desired view. It would have been obvious to one of ordinary skill in the art to combine the teachings of Schofield and McClure to provide the user with an interior rearview mirror viewing system that maximizes desired rearward view by supplying the driver with a means to adjust the field of view and a display apparatus that provides the user with additional information (as taught by Schofield).]

wherein the processor is further arranged to display images one after the other on the display. [Schofield has taught in paragraph 0284 the capturing of rear-view (side mirrors - see

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figure 21) that capture images of the car from the passenger and drivers side (plurality of cameras with different views), and in paragraphs 0009-0010 displays additional overlaying information with regards to the vehicle and its surroundings (selection of information taught in paragraphs 0063 and 0305-0306). Furthermore, the image data displayed by both references are video data, and thus are a sequence of images displayed one after the other on the display.]

Instant claim 13: The viewing system according to claim 10, further comprising a selector connected to the processor to select which image and/or which of the additional information is displayed by the display [*Schofield: paragraph 0009-0010 displays additional overlaying information. Selection of information taught in paragraphs 0063 and 0305-0306*].

Instant claim 14: The viewing system according to claim 10, wherein the display is positioned as a rear-view mirror in a vehicle [*McClure: Lines 41-62 of column 2. Schofield: Fig. 1-9 and various other figures include different embodiments*].

Instant claim 15: The viewing system according to claim 10, wherein the display is adjustable in a tilt and a pan direction [*McClure: lines 41-62 of column 2, Fig 2-4, and lines 42+ of column 5 where X and Y direction refer to rotation about the horizontal and vertical axis.*].

Instant claim 1: A viewing system comprising a display and an imaging system connected to the display [*See analysis of instant claim 10*],

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the display being arranged to display an image based on signals received from the imaging system [*See analysis of instant claim 10*],

wherein a spatial orientation of the display is adjustable [*see analysis of instant claim 10*],

the imaging system comprising a plurality of cameras, each of the cameras providing a different view and [*See analysis of instant claim 10.*]

the imaging system further comprising an orientation adjustor arranged to adjust a viewing orientation of the imaging system, [*See analysis of claim 10.*]

the viewing system further comprises a sensor for detecting adjustments in the spatial orientation of the display, the sensor being connected the orientation adjustor, and

the orientation adjustor being arranged to adjust the viewing orientation of the imaging system based on signals received from the sensor, [*See analysis of instant claim 10 for single camera, but McClure does not teach multiple cameras (see Ross).*]

the viewing system further comprising a processor arranged to display images one after the other on the display, [*See analysis of claim 10.*]

Instant claim 21: The viewing system of claim 10, wherein the additional information comprises distance to obstacles. [*Disclosed by Schofield in paragraph 0264.*]

Instant claim 22: The viewing system of claim 21, wherein the processor is further arranged to display the distance to the obstacles when the vehicle is being driven backwards. [*Disclosed by Schofield in paragraph 0264.*]

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The limitations of instant claims 4-8 and 18-19 have been shown too been taught by McClure in view of Schofield as per the rejections of instant claims 10, 13-15, and 21-22.

4. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClure in view of Schofield as applied to claims 1 and 10 above, and further in view of Okamoto et al. (KR2002-0033816 which is the Korean publication of the patent family shared by US 7266219).

Instant claim 11: The viewing system according to claim 10, further comprising one or more cameras positioned in the vehicle and include cameras for providing images of tires of the vehicle. *[McClure in view of Schofield have taught the capture of a plurality of images from various locations on the vehicle and the display of these images to aid the user in monitoring the surroundings of the vehicle, but have not taught the monitoring of the tires with cameras. However, Okamoto has taught in the section entitled "The problem of the method of hitherto 1 and the subject to solve." (begins on page 3) a vehicle monitoring system that monitors blind-spots surrounding the vehicle including cameras that capture images of the tires (images "including ground of tire" – description of figure 8 on page 8 of Okamoto). Therefore, McClure, Schofield, and Okamoto have all taught the monitoring of vehicles regions to increase driver awareness. It would have been obvious to one of ordinary skill in the art to combine the teachings of Okamoto (tire region monitoring) with the vehicle monitoring system of McClure in view of Schofield (designed to increase driver awareness of vehicle surroundings) to increase driver awareness of the vehicle surrounding by including additional views of the vehicles surroundings (tire regions).]*

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The limitations of instant claim 2 have been shown to have been taught by McClure in view of Schofield, and Okamoto as per rejection of instant claim 11.

5. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClure in view of Schofield as applied to claims 1 and 10 above, and further in view of Li (DE 29612536 U1).

Instant claim 12: Viewing system according to claim 10, wherein the image processing means are arranged to display one or more images at the same time or one after the other on the display means [*McClure has disclosed the display of a single image in lines 41-62 of column 2. Schofield also disclosed the display of at least a single image as is shown in Fig 39A. Furthermore, it was known to one of ordinary skill in the art to display multiple images in parallel as has been evidenced (figures 5-6) by the teachings of Li (DE 29612536 U1). Thus McClure in view of Schofield have taught the capture of image data from multiple points, and Li has taught a system of capturing image data from multiple points and displaying at least two of these simultaneously. Schofield has taught in paragraph 0284 the capturing of rear-view (side mirrors - see figure 21) that capture images of the car from the passenger and drivers side (plurality of cameras with different views). Furthermore, the teachings of Li in figure 6 (also see figures 1-2 and 5) provide the motivation for capturing and displaying both rear and side-view images with a plurality of cameras and displaying all in a single rear-view display system*

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(display is divided into separate parts, rear-view displayed on top and the two side-views are displayed side-by-side on the bottom portion of the display). It would have been obvious to one of ordinary skill in the art to combine the teachings of additional cameras as taught by Schofield with those of McClure as evidenced by the teachings of Li in figure 6 to enhance the vision of the driver by reducing the vehicle's blind spots (see discussion of Schofield in paragraph 0284 that teaches reduction of blind spots), and increasing the amount of information available to the user.].

The limitations of instant claim 3 have been shown to have been taught by McClure in view of Schofield, and Li as per rejection of instant claim 12.

6. Claims 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClure in view of Schofield and Li as applied to claims 3 and 12 above, and further in view of Trifonov (US 2003/0053690).

Instant claim 20: The viewing system of claim 10, wherein the processor is further arranged to eliminate high lights that cause blinding in a registered image, and the display is further arranged to display multiple image from the plurality of cameras at the same time by dividing the display in different parts. *[McClure in view of Schofield and Li have taught a user adjustable image display means that controls at least one imaging device, and the display of a plurality of video images on the display apparatus (Li). Furthermore, McClure has taught in lines 38-44 of*

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column 7 that correction of highlights (bright, saturated, or overexposed region) in an image was known in the art at the time of the invention, but does not go into specifics as to whether this correction was done with lens adjustment or digital enhancement means. However, as is evidence by the teachings of Trifonov the (histogram equalization) correction of shadow or highlight regions of a captured digital image by digital means was well known in the art at the time of the invention after the image has been "registered" (registered is being interpreted as the image having been obtained/captured by the system). See paragraphs 0005-0008 and 0034 of Trifonov for further discussion of the manner of the correction. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device and method of "blinding light" (headlights) adjustment of McClure to control image brightness with a known digital techniques as taught by Trifonov to reduce image noise and improve image usability by reduction of brightness in image regions that are overly bright. Furthermore, one of ordinary skill in the art at the time of the invention would have had a reasonable expectation for success in combining the teachings of Trifonov (image processing method) with McClure (unknown camera adjusting method to reduce brightness caused by headlights shining into the camera "blinding lights") to digitally enhance the images captured by the device of McClure in view of Schofield and Li.]

The limitations of instant claim 17 have been shown to have been taught by McClure in view of Schofield, Li, and Trifonov as per rejection of instant claim 20.

Conclusion

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7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Bloom whose telephone number is 571-272-9321. The examiner can normally be reached on Monday through Friday from 9:30 am to 6:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached on 571-273-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Matthew C Bella/

Supervisory Patent Examiner, Art Unit 2624